

# Aviation News

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**Senator Harry S. Truman:** His fact-finding committee on progress of the war program, urges in a report on the nation's transportation system that the airlines be permitted to reclaim more airliners from the Army. The report lauds air transport's remarkable war record.

## Essair Rushes Plans on Test Feeder Route

Operations expected to begin early in 1944; CAB's omission of "National defense" phrase may clear way for pickup line.....Page 31

## Stanton Sees Lightplane as Production Stopgap

Popularizing of flying will boost civil plane total to 500,000 by 1950, CAA chief tells contractors .....

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## Plant Area Boards to Hear Draft Appeals

Files to be forwarded from local units for review by Jan. 9; summary of week's actions in U.S. and war agencies.....Page 12

## United's Stock Proceeds to Set Industry Record

Registration statement shows company will enter post-war era in formidable financial position, commentator says.....Page 29

## Allies Shuffle Air Forces for Invasion Drive

Lessons of Africa, Salerno and Rome Campaign result in new 15th Air Force under General Doolittle .....

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## Labor Turnover Mars Brightening Plane Picture

About 20,000 workers monthly leave jobs in West Coast plants, AWPC reports; 11 months' labor loss 2035 "Forts".....Page 10

# Westinghouse Announces

A NEW HIGH-FREQUENCY STABILIZED  
A-C WELDER FOR LIGHT GAUGE WORK

The Type WC-AC welder was designed especially for welding thin-wall tubular fuselage members, tubular chassis on engine mounts, landing gear and light sheet metal work—faster and better.

It meets the four major requirements for aircraft welding service:

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3. Ability to weld all types of alloys as readily as carbon steel.
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The new Westinghouse Type WC-AC Welder eliminates the need for "spring" welders intended for other types of service with their slower and less flexible performance. Superimposed high frequency makes the A-C arc practical on light materials at low currents and boosts welding output. Further, the price of the Type WC-AC welder is comparable with that of regular dc welders.

For more information on the new Westinghouse High-Frequency Stabilized A-C Welder, call your nearest Westinghouse office, or write today to Westinghouse Electric & Mfg. Company, East Pittsburgh, Pa.



WC-AC Welder  
Welds thin gauge  
sheet metal, tubing  
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## CHECK THESE FEATURES

1. High-frequency arc stabilization permits operation to strike the arc quickly and hold it steady at current settings as low as 10 amperes.
2. Movable core provides very fine stepless current adjustment.
3. Double range current adjustment for welding of special slopes—results in extremely fine current adjustment from 10 to 70 amperes.
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**Westinghouse**

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**A-C WELDERS**

THE AVIATION NEWS

## Washington Observer

**SLOAN SPEAKS OUT**—At a time when most war industries are either aiming that their full attention is being given to war production or that their postwar plans, if any, are nebulous, it is significant that Alfred P. Sloan, Jr., chairman of the Board of General Motors, speaks out in public about GM's postwar master plan calling for an expenditure of \$300,000,000 for reconversion. Many industry leaders are extremely reluctant to mention as even hint that they have postwar plans for fear of incurring the wrath of the government upon whom they are dependent for their contracts.

**POSTWAR MARKETS**—Every thoughtful person knows there is still a war to be won and that the cost will be heavy in men and material, that there can be no slackening in the production effort, but at the same time, any manufacturer who is not giving serious consideration to reconversion and who does not have solid executives assigned to this work, may find himself left behind in the competition for postwar markets.

**AIRCRAFT COMPANIES HESITATE**—Aircraft manufacturers have been particularly reticent even to hint that they are making definite plans for reconversion, and questions along postwar lines directed to some industry leaders are received with a shrug and a smile. One reason is the capitalization of the aircraft industry's existing productive base now assuring the general belief is held that some aircraft companies are being over-cautious in the matter. True, there has been considerable discussion of the postwar aviation industry and estimates of its prospective volume and there have been some guarded statements as plans for the future, but no all-out public statement such as Sloan made is the National Association of Manufacturers.

**GM AND NAM**—As far as records of the National Association of Manufacturers show—and NAM members set and to be responsible for about 80 percent of American aircraft production—General Motors is the first big corporation to come out with a public announcement of its postwar spending program. While it is true that the aircraft industry is in a unique and perhaps dangerous position financially due to vast expansion, the aircraft names proven on battlefields throughout the world undoubtedly will have great postwar market value if properly prepared before the public.

**PLANES VERSUS POUNDS**—It has been frequently said in "AVIATION NEWS" that airplane weight is the only true production criterion. New West Coast aircraft plants, to preserve their place in the aviation sun, are making sureties to have future warplane production figures published at the heads of output headings rather than numbers of aircraft built. A year ago, West Coast factories could boast they built 64 percent of the nation's military planes. This fall they produced only 60 percent of total planes built, but the point is that the percentage is West Coast plane unit production is now 20 percent of planes built. Besser aircraft is the answer, but the giddy thinks in numbers of airplanes and publishing weight may take a bit of education to get over.

\* \* \*

**SANS "B.V.D."**—The Pacific Coast aircraft industry lost its "silkshirt" Dec. 1 when the identity of Vega Aircraft Corp., Lockheed-owned,



Wright Brothers' Flight at Kitty Hawk

was erased by the parent company. The action wiped out an interesting aspect of a serious business by ending the static official and later unofficial "B.V.D." identity of a noted Flying Fortress production group, the Boeing-Vega-Douglas pool. The B.V.D. designation was "official" until a year ago, when the manufacturers of B.V.D. underwrote a formal protest. With a grin, the Fortress builders obliged and shifted company initials to "B.D.V.". From now on it will have to be "B.D.V."—the last for Lockheed.

\* \* \*

**INCENTIVE WAGE PLANS**—There has been little said publicly about incentive wage plans





## THIS HANDFUL OF AUTOMATIC POWER

**Protects plane and crew...**

Capsules of high energy in compact form, White-Rodgers motorized temperature controls automatically prevent excessively high or low temperature conditions that spell danger to a plane and its busy crew.

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**Aviation News**  
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December 20, 1943

## Truman Committee Urges Release Of More Planes to Airlines

New report panics air transport industry, says record of airlines entered by Army so far is "not creditable."

By ROBERT H. WOOD

The Senate's Truman Committee in a report on the nation's wartime transportation system warns that sufficient new equipment must be given all media, including airlines, if they are to continue efficient operation.

The report discloses that the Committee has descended from the Army and Navy data on "comparative efficiency" of railroads and planes, resulting in the average daily hours of flight time of the transport planes operated by them.

**Result of Charge**—This is the result of several public accusations that the services have not used efficiently transports taken from the lines.

In contrast, the Committee points out that the lines have increased average daily scheduled flying hours per plane from 8.63 before 94 percent of their planes went to the Army, to 11.27 on Sept. 1, 1943. Revenue passenger load factor rose from 87 percent in the first half of 1942 to 96 percent in the last half of 1943.

**Expects 100,000 Employees**—The airlines next July will have 100,000 employees, contrasting with 75,000 in July, 1942, and 30,000 a year earlier. Based on the capacity of the present airline fleet, and not on the demand, the Committee foresees a "possible increase" of 5 or 6 percent in air passenger travel in 1944. It is assumed that most of this gain would be in off-peak seasons.

**High Efficiency**—The record to Dec. 1, 1943, of returning only 22 planes, six of which were replacements for destroyed planes, "is not creditable," the report states. The airlines "have established that they can utilize the transport planes furnished to them with a very high degree of efficiency. This factor is a very important and should be

given most careful consideration before transport planes are assigned to other uses where the efficiency factor will be substantially less."

Return of a "substantial" number of planes as soon as possible would enable the lines to multiply the service they have demonstrated they are capable of rendering, the report says.

**High Value**—Although the domestic airlines earned \$1,100,000,000 only about 6.1 percent of the freight and 16.1 percent of the passenger traffic carried by public transport agencies, such percentages would indicate.

## Plane Output Near Peak, Says Nelson

WPB chairman cites steady rise in airplane weight as well as unit output.

The monthly report on aviation output issued by WPB Chairman Donald M. Nelson emphasizes that the nation is moving toward its peak production. And, as that peak is approached, even a modest monthly gain is an achievement.

The airplane unit production, as previously announced, was 8,759, exceeding October output by 427, despite the shorter month, but more significantly, plane production was up 5 percent in number, while airplane weight gain was 1 percent.

At the same time, the cost per plane dollar value remained 6 percent.

**Bigger and Better**—Nelson emphasizes that "we are getting bigger and better airplanes."

November average airplane weight per plane was 8,130 pounds, 7,585 pounds for the first eleven months of the year, and compared with 8,780 pounds in 1942.

Average airplane weight per plane is scheduled to move even higher next year.

For the second consecutive month, neither manpower nor design-change problems constituted major obstacles to overall production. Nelson's report said production at West Coast plants demonstrated that the manpower plan, initiated about three months ago, is proving successful throughout the industry.

## World Notables Meet To Honor Wrights

Gen. Arnold wins Collier trophy and President announces that original Wright plane will be restored.

By BLAINE STURRLEFIELD

Leaders and peoples of all the world gathered in Washington to pay tribute to Orville and Wilbur Wright at a dinner Dec. 13, the fiftieth anniversary of their first flight of a powered aircraft at Kitty Hawk, N. C., in 1903.

President Franklin D. Roosevelt personally invited Orville Wright to the dinner. A message from the absent President, prepared for delivery at the dinner, and Mr. Wright had authorized him to announce that the original Wright plane had been brought back from England and placed in the Smithsonian Institution, from which it had been withheld for many years, due to a controversy which was resolved last year.

**Arnold Wins Award**—The Collier Trophy was awarded to Gen. H. H. Arnold, chief of the United States Army Air Forces, for the highest achievement in aviation in 1943. Congratulatory messages from England, Russia and China were received and the representatives of 19 United Nations were present to pay their respects. Scores of cabinet officers, Congressmen, war officials and others were present.

Addresses were prepared by Navy Secretary Frank Knox and by Undersecretary of War Robert Patterson. Mr. Wright has for years lived



Photo Photo Courtesy U. S. Army



In addition to the new Avco York transport, the Bristol Company, he said, has been commissioned to do engineering on a large positive transport.

**Opportunities**—The Germans, as far as he could tell, are developing a new Messerschmitt 309, but it "won't be useful in this war," he said, because it takes too long to develop a new plane. He believes the Germans, he said, felt by the English Air Force and the RAF over the report that two of Germany's three large fighter plane plants have been destroyed.

On positive design, Beall pointed out that the type of plane needed would depend on economics, legislation and international politics.

## AAF Orders Removal Of Planes' War Paint

The Army Air Forces have ordered the removal of war paint from almost all of its aircraft, a move which will give Army planes several miles an hour additional speed, will result in a substantial reduction in weight and cut down production costs.

AAF estimates removal of camouflage will yield a slight increase in top speed, and that there will be a weight reduction in lighter types of approximately 15 to 20 pounds and in heavy bombardment types of from 70 to 80 pounds. Only specialized planes overseas will retain their camouflage where tactical considerations require it in combat areas.



MEYERS MAKES WTS DELIVERIES:

War Transport Service has received 15 of these Model OTW-162, manufactured by Meyers Aircraft Co., Tecumseh, Mich. It is equipped with the latest Kinner R-56, 160-hp engine and was developed especially for operation from airports in high altitudes. Its makers say it will climb to 16,000 feet, completely loaded in ten minutes. It weighs 2,330 pounds empty, 17,400 gross.

## Brightening Plane Picture Marred By Turnover on Production Line

About 20,000 workers monthly leave jobs in West Coast plants, AWPC reports; loss in man-hours in eleven months put at equivalent of 2,035 Flying Fortresses.

A few small clouds darken an otherwise generally brighter manpower picture in the aircraft industry, however: turnover continues. Between January and November, with 20,000 workers leaving their jobs at West Coast plants every month and while the need for aircraft and other indirect help in manufacturing all plants still need workers for production lines.

The Aircraft War Production Council, in a survey of West Coast plants, found that an average of 50 percent of those leaving gave "personal reasons," such as returning home, wanting a rest or vacation, marriage and similar reasons.

**Situation Serious**—The seriousness of the situation is pointed up by the Council's estimate that man-hours lost in 1943 will total 1,000,000 turnover and equivalent to production of 2,035 Flying Fortresses. The Council fears that if turnover were cut by 50 percent, most of the aircraft industry's manpower problem would be solved.

Following up earlier figures on the military east of turnover, the Council points out that since it costs an average of \$300 to hire and train each worker, the turnover last year at the present rate will equal

approximately \$40,000,000 or, based on an average cost per fighter plane of \$75,000, about 400 P-38's, Mustangs and Thunderbolts which failed to get off the ground.

**Type of Worker is Problem**—In addition to the turnover problem, a steadily declining number of those who seek employment with aircraft companies is willing to accept plant jobs concerned with the physical manufacturing and assembling of warplanes. The manpower problem of the industry is not numbers alone, but type of workers.

Approximately two-thirds of those who apply for jobs in the warplane plants want permanent civilian salaries, the other one-third, mostly turnover, are content to produce 2,035 Flying Fortresses. The Council fears that if turnover were cut by 50 percent, most of the aircraft industry's manpower problem would be solved.

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**Indirect Worker Reductions**—Lay-offs of indirect labor in some plants was and has been urged by Brig Gen Donald F State, western district supervisor, AAC, Materiel Command, and Maj Gen Charles E. Moulton, Materiel Command, Wright Field.

Despite the complicating factors of turnover and those involved in direct and indirect labor problems, industry leaders believe the steadily rising curve of aircraft production can be continued as these headwinds disappear or are eased by concerted Council attack.

**Production Progress**—Evidence of production strides made is seen in the fact that in the month before Pearl Harbor the West Coast plants produced only 762 planes, many of which were trainers rather than combat types. Today, these same plants complete nearly 160 planes every working day—and a vast majority of them are war bombers.

On Dec. 7, 1941, the work of 38 skilled workers was required for one year to turn out a four-engine bomber. Today, only 17 workers are needed for the same period to do the same job. Therein lies the bright aspect of the manpower picture.



A. OGDEN PIERROT:

Shows concern in preparing sales estimates in post-war Latin America. In the area, he was nominated an agency of the United States to aid about 100,000 refugees of all 20 planes now in South America. He represented Curtiss-Wright, Martin, Glenn-Lemay, Fairchild and Standard. Earlier he had been U.S. trade commissioner and commercial attaché at the embassy in Rio Janeiro. He spent one year on a U.S. commission studying rubber production in the Amazon Valley. He is now McDonald Hill from WPA's aircraft production division.

**Opposes Damping of Surplus**—He says that business was not enough to make for the first low postwar years since many of the government contracts have obtained more equipment than they ever had before from our government during the past two years.

However, if damping of surplus equipment by the United States and Great Britain is persevered, Pierrot feels a market for training and auxiliary aircraft types of greater weight under \$10,000 pounds should be marketable for a total annual volume during the first five years after the war of from a minimum of \$5,000,000 to a maximum of \$20,000,000 per year.

**Military Sales Outlook**—Pierrot said it would be his guess that even if trade in military aircraft is unrestricted, and assuming that American manufacturers could obtain the greater portion of the business in military aircraft, the average annual sales in South America would not exceed \$10,000,000 for the first five postwar years. He also said that this takes into complete aircraft only and that spare engines, propellers, and other equipment and parts would account for about 10 percent.

Sales of personal airplanes in Latin America, Pierrot estimated, are not likely to average more than \$1,000,000 for several years to come. This would allow for annual exports of around 500 airplanes valued at \$2,000, which would take care of the light airplanes and the few heavier and more expensive 4-8-place planes.

of markets that will open up in that territory after the war are certain to cause no end of idle planning, needless losses of money, etc."

**Cargo Equipment Sales**—Potential sale of cargo equipment in South America, in Pierrot's opinion, will be limited largely to those airlines which are owned by Latin American operators who may obtain permission to operate in Latin-American countries as well as through them. He believes a few Latin-American governments may decide to establish government-owned airlines similar to those operated by the Chilean government "but the total volume of sales probably would not exceed a dozen airplanes per year in all Latin America."

Pierrot pointed out that the bulk of our aviation trade in Latin America has been in military types of aircraft, including trainers and he believes these to the government for military purposes will continue to represent by far the greater part of the dollar volume of aircraft purchases in Latin America.

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## AA Asks Alternate N.Y.-Minneapolis Line

Only these applications filed with CAB during week.

Three applications for air service and one amendment to a previous application were filed with the Civil Aeronautics Board in Washington last week.

Most extensive was American Airlines' amendment to Dockets 811, 1118, 1183 and 1200, previously filed. The company's intention to file this amendment had been announced by their counsel at a press-conference on the application of Northwest Air Lines and others for service roughly following a route from the Twin Cities to New York.

**Alternatives Proposed**—American proposes various alternatives to its previous application in the event that CAB does not authorize establishment of Routes 11, 23 and 4 into one route, or consolidation of Routes 7 and 11, which American has requested. Among the cities affected in the amendment are St. Louis, Detroit, Cleveland, Toledo and Columbus.

American also filed for a new route from St. Louis to the terminals Cleveland and Detroit, via Springfield, Ill., Indianapolis, Anderson-Manassas-New Castle, Port Wayne and Toledo. This proposed

## Mass Producers

Grumman Aircraft Engineering Corp.'s facilities are currently producing more aircraft on a ton basis than any other plant in the country.

Grumman is closely tied to the Republic plant of Curtiss-Wright Corp., which is raising in record plate.

Other leaders are Bell Aircraft, Lockheed, North America's Brewster plant, Consolidated-Vultee at Decatur, Republic Aviation Corp. at Farmingdale, and Douglas' El Segundo plant, in that order.

Washington officials and executives of the aircraft industry, however, are not inclined to emphasize that airplane output equals the Detroit standard for production, and it is anticipated that few if any government assessments of the industry's accomplishments will be issued in units of aircraft.

route as similar to those presently under discussion at a hearing before **Commissioner Thomas L. Moran.**

**Passenger Service Asked**—A "fly-away" or carrying service was proposed by Eldon H. Courtneyman and William R. MacDonald, Jr., of Chicago, engaged in surface transportation of passengers, cars and house trailers, with the Trailer Transport Co. and Mid-West Trailers Transport, respectively. They ask to be allowed to transport new or used aircraft by flight, or carried as freight, over an irregular route to any or all points in the United States and Alaska.

Another application which was not contested with the non-expansion of passenger was that filed by Wisconsin Freight Lines of Detroit. This company operates a fleet of 750 motor vehicles in 12 eastern and middle western states. It proposes to carry property, mail and express by air over substantially the same routes in both scheduled and non-scheduled operations. Twenty-nine routes suggested by the company extend roughly from New York to Kansas City, and from Buffalo to Louisville.

**Heliplane Route Proposed**—From New Hampshire came an application from another concern owner, F. S. Willey Co., Laramie. Proposed service would take passengers, property and mail by helicopter from Laramie over nine routes to New York, Boston, Newark, Vt., and Cleveland. Nine western intermediate points. Applicant declared this itinerary is set now being adequately served and proposes to coordinate its present trucking operations with air cargo and passenger service.

**UAL Files Five Applications**—Also coming many of the towns under discussion at this hearing were five further applications which United Air Lines announced was about to file. These would add 32 cities and 3,000 route miles to their present system. The applications called for a new route from Chicago to Pittsburgh to New York with two operations—non-stop from Chicago to Pittsburgh, and from Pittsburgh to New York, and the other via various intermediate cities on this route.

Other service proposed included a route from Chicago to Pittsburgh via Indianapolis, Cincinnati and Columbus; an extension to New York of United's present route to Washington; a new Toledo-Wichita route via Pittsburgh and other intermediate cities; and a route from Chicago to New York via various cities in Indiana, Ohio and Pennsylvania.

## Appeal Boards in Employment Area To Hear Aircraft Workers' Cases

File to be forwarded from local units for review by Jan. 9.  
Summary of week's activities in federal and war agencies.

By BARBARA FREDERICK

Selective service registrants who have been granted occupational deferments and whose principal place of employment is in a different state or board area from that of their local board will have their files forwarded to the appeal board in their employment area for review before Jan. 8.

This new regulation was issued last week from National Headquarters of Selective Service. The review of all registrants who have received an occupational deferment is required by the recent amendments to the Selective Service law.

**NWLB—Subject to the approval of the National Rehabilitation director, a new schedule of job classification rates for plants of the aircraft division of Curtiss-Wright Corp. was established.** The National War Labor Board Plants affected are St. Louis, Louisville and Columbus where employees are represented by the International Assoc. of Machinists-AFL, at the Jarmain two plants, and by UAW-CIO as the bargaining agent at the Columbus plant.

While there is no general wage increase involved, the new schedule will raise the maximum rates in eight of the ten labor grades and will increase the hiring rate free casts as base for all graded branches to the rate of 95 cents per hour. The Board modified the wage or salary issue to conform with its policy. That it may still do, but it has the additional choice of returning the case to the arbitrator.

**Hubb Sides Get Holdings**—Preliminary rulings on whether approval is required for contemplated wage or salary adjustments, will now be given in both to the party requesting the ruling and to the other party involved. Formerly an employee or union might apply to the Wage and Hour Division and might receive a ruling without the knowledge of the other party to a collective bargaining agreement. The new procedure is included in amendments to "Jurisdiction and Procedure of Federal War Labor Boards," recently issued by the NWLB. A further change in procedure has to do with rules for handling appeals, and deals with the recommendation of corrective orders and rulings by regional boards.

**UAW-CIO Was Entitled as Bargaining Agent**—For production and maintenance employees of Fisher Aircraft Craft division, General Motors Corp., Plant No. 2 At the same plant, AFL unions were certified for maintenance painters, carpenters and electricians, majority of whom voted, respectively, for Brotherhood of Painters, Decorators & Paperhangers, District Council 8, Cuyahoga County Carpenters Union Council, and International Brotherhood of Electrical Workers, Local 26.

**Midwest Shipworkers of America-CIO** was certified for production and maintenance employees of Rheem Manufacturing Co., Birmingham, Ala., following an election held Nov. 18. Production and maintenance employees of the Fritz Instrument division, Bendix Aviation Corp., Baltimore and Towson, Md., will be represented by United Electrical, Radio & Machine Workers of America-CIO, as the result of an election held Nov. 12.

**Clerical Employees to Vote**—NWLB directed that hourly rated clerical employees of the Chevrolet Motor division, General Motors Corp., Flint, vote for or against reversion of UAW-CIO within 30 days of Dec. 6.

As the result of hearings held in October at Fort Worth and Dallas, Trial Examiner James R. Homestay recommended that North American Aviation, Inc., cease and desist from discriminating membership in UAW-CIO, or in any other way restraining or coercing employees in their self-organized right; hold a warning sound on

maximum wage employees of Fisher Aircraft Craft division, General Motors Corp., Plant No. 2 At the same plant, AFL unions were certified for maintenance painters, carpenters and electricians, majority of whom voted, respectively, for Brotherhood of Painters, Decorators & Paperhangers, District Council 8, Cuyahoga County Carpenters Union Council, and International Brotherhood of Electrical Workers, Local 26.

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**Arbitration Policy Modified**—Included in a document, "National War Labor Board Rules of Organization and Procedure," released last week, is a modification of the NWLB's arbitration policy in cases where arbitrators' awards are found not to conform to the Board's economic stabilization policy. The case may now be referred to the arbitrator for his recommendation in view of all pertinent factors. Formerly the Board modified the wage or salary issue to conform with its policy. That it may still do, but it has the additional choice of returning the case to the arbitrator.

**Hubb Sides Get Holdings**—Preliminary rulings on whether approval is required for contemplated wage or salary adjustments, will now be given in both to the party requesting the ruling and to the other party involved. Formerly an employee or union might apply to the Wage and Hour Division and might receive a ruling without the knowledge of the other party to a collective bargaining agreement. The new procedure is included in amendments to "Jurisdiction and Procedure of Federal War Labor Boards," recently issued by the NWLB. A further change in procedure has to do with rules for handling appeals, and deals with the recommendation of corrective orders and rulings by regional boards.

**Davis Tests Wing**  
David E. Davis, investor of the famed Davis wing, is testing on the Islands the famous and royalties of the wing that has made the Louisville inventor a millionaire. He has become something of a mystery man in the aircraft industry.

Few know that he is busy with new experiments and is using the "outdoor wind tunnel" which Davis—a hobbyist—had built with a flat disk attached to the top. On the disk are holding devices for experimental aircraft sections fitted with performance recording instruments. When the weather man promises still air, Davis goes up to a Mojave Desert dry lake bed, flies along over its glassy smooth surface at high speed, conducts tests without time limit — or wind tunnel fees.

**Arcy-Navy "E" award** has been presented to the Glenn L. Martin Co. plant, which recently started work on a new-type bomber. The contract was awarded to General Motors Corp., Indianapolis. Who also received this productive award.

**WPA—Action to promote establishment of suitable in-plant feeding facilities for war industry workers** was announced by Donald M. Nel-



**Skaters Aerial Boards** On her first war mission, the post-Mars Naval Air Transport Service's new cargo flying boat, skinned four miles west of the Patuxent River, Md., to Naval Brand, non-stop flight of 4,013 miles and the return journey by plane. The Mars took off from Patuxent weighing 147,500 pounds gross, the heaviest weight ever lifted by a plane.

son, chairman of WPA. A general administrative order placed specific responsibilities in the Office of Civilian Requirements and the Office of Defense Production to maintain the highest productive efficiency of civilian employees of industrial plants by making available sufficient supplies, facilities and services, and, in cooperation with the War Food Administration and the OPA, sufficient son, chairman of WPA. A general administrative order placed specific responsibilities in the Office of Civilian Requirements and the Office of Defense Production to maintain the highest productive efficiency of civilian employees of industrial plants by making available sufficient supplies, facilities and services, and, in cooperation with the War Food Adminis-

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**OHW Report**—This report of National War Labor Board was submitted to the Senate on Oct. 15. The report is interesting in light of a report from the OHB issued later in the week. From a survey of data from six communities reporting greatest decrease in turnover and six companies with greatest increases, it was indicated that improved community facilities reduce the number of workers quitting if in-plant conditions are good.

Cratafatory in-plant conditions created a high turnover even when good, or at least adequate, community facilities were reported to the War Manpower Commission and the President's Commission on Cooperative Production Areas. Highest quitting areas reported were Las Vegas, Nev.; Stockton, Calif.; Portland, Ore.; Vancouver, Wash.; Columbia, Ga.; Kansas City, Mo.; and Peoria, Ill.

**Airfield Contracts**—Approximately \$4,560,000 worth of engineering contracts were awarded by the Chief of Engineers, War Department, for construction of managerial and army airfields, air terminals and AAA depots.

Largest single contract, \$802,620, was for extension of runway at Bolling Field, Ga., Harryhausen extension at Tinker Army Airfield, Oklahoma City, will cost \$32,165 and additional construction at Westover Field, Chicopee, Mass., is estimated at \$351,192.

## Ward Testimony Ends Fairchild Hearings

Atmospheric firm's president conveys Congressmen of difficulties of plane building.

An investigation into production at Fairchild's plant at Burlington, Vt., died shorting after J. Carlton Ward, Jr., Fairchild president, appeared before a House Military Affairs subcommittee and explained to the committee's entire satisfaction and education some of the difficulties attendant upon building a new airplane.

Ward's clear, concise and candid testimony was a revelation to some committee members who were impressed with his presentation and that of Lt. H. R. French, pilot examiner, **Air Service**.—Aviation-minded Members of Congress had privately thought Ward had performed a service for the entire aircraft industry in making clear the problems which aircraft manufacturers are daily facing and solving.

Rep. John M. Costello, California, Chairman of the subcommittee, after hearing the testimony and conferring with members, said no further hearings would be held and that the proposed probe would be dropped.

♦ Called "Marvelous Job"—After

problems the company had in convincing us getting the Burlington plant into production, especially members complimented him for doing "a marvelous job in clearing up a problem which looked bad."

An investigator for the committee, Wendell B. Blackstone, had reported that more than \$13,000,000 had been spent on the Burlington plant, but that only one airplane had been produced since the plant received its first contract on Oct. 11, 1941. He also certified that the Burlington plant had received three contracts totaling more than \$83,000,000, that 2,500 workers had been employed and that 475 gunnery training planes were ordered.

♦ Charges—Blackburn charged general management, arbitrary and extravagant. Later, Ralph Barnes, committee counsel, told the committee that the Burlington schedule called for 173 planes up to Nov. 30, 1943, and that only four had been delivered.

Ward explained that the plane being built at the Burlington plant was based upon development in material, engineering and power and that it was presently in advance of normal at this stage.

♦ Delivery Schedules—Smith pointed out that production schedules call for the delivery of ten planes in January, with an increase of five monthly until output reaches 45 a month. He added that he was re-

## Ratings Revoked

Pilot ratings were revoked by the War Production Board because of the enormous demands by two aircraft firms. The orders affected a building of Lockheed Aircraft Corp. on Burbank, and part of a project to make alterations to a plant of Goodyear Aircraft Corp. at Lakewood Park, Calif.

A revocation order issued last June in Cleveland, Prossesse Aeroc, Inc., concerning facilities in manufacturing aircraft landing gear arms, was intended to except certain necessary machine tools.

solutely sure the schedule would be met.

Ward said his company has been engaged in much experimentation in advance training planes and that a large share of the money charged to Burlington was for experiments in developing a new type of plane and to prepare for production when experimentation was complete. Considering failure to meet original schedules, he said the schedules were unrealistic because "we really did not know what kind of airplane we were going to build."

♦ Defense Plant's Overlay—While the designer has concentrated or spent approximately \$13,000,000, this covers experimentation, pilot testing and training of workers. He explained that, as a consequence, original costs, part of which should be charged against succeeding production, are not excessive.

Ward emphasized and Smith confirmed in the posthearing Fairchild bid in trying a complete force of workers at Burlington and said that, of the approximately 2,500 employees, about 900 were hired and no new permanent workers have been taken on since the plant was prepared and that a program of in-dash training was necessary. He said labor turnover and absenteeism at Burlington were below average for the industry.

♦ Expansion Costs—Ward defended the vast expansion of the aircraft manufacturing industry within a comparatively short time of necessity involved large expenditures of money which could not be justified in normal peacetime production, but which were a part of the cost of a wartime production with constantly accelerated schedules. This is a point which the aircraft industry has put forward before and which has been difficult for persons unassociated with the aircraft industry to understand.

## Civil Air Patrol Forms Plant Units

Civil Air Patrol has an activity even less publicized than the regular patrols—the organization of industrial squadrons, composed of aircraft workers.

The project is rapidly taking hold as a number of areas and company executives are showing interest in view of the effect of CAP training in improvement of employee relations, because a man or woman engaged in a specific job in an aircraft plant gets an entirely new and valuable viewpoint of the work if taught some of the fundamentals of aviation through CAP courses.

♦ 100 Bell Workers in Group—A recent report from Georgia says about 100 employees of the Bell Aircraft plant, Atlanta, are attending CAP classes and that many others have indicated interest and a desire to join the program.

In Michigan, one squadron is composed entirely of civilian employees at the Remington Army air field. Prior to employment there, at least 90 percent of them had little knowledge of aviation. They are now taking CAP training in all basic courses. Several Army officers have volunteered to teach various classes. ♦ Industrial Squadron—Michigan's Technical Service Squadron, in Detroit, formed to assume expert maintenance of CAP aircraft and training of plant workers. This squadron has the facilities of the Aero Mechanics school available for training in aircraft engines and aircraft.

One of the new industrial squadrons which various wings have formed to give aircraft workers an opportunity to round out their knowledge of aviation is at the Curtiss-Wright plant at Louisville, Ky.

## Spyrey "V" Credit

A Spryey "V" credit for \$825,000,000, running to Dec. 31, 1942, has been obtained by Spryey Corp. from a group of 25 banks headed by Bankers Trust Co., New York.

Thomas A. Morgan, Spryey president, said the company's expansion program had been completed and production was at a high rate. It was believed that new credit, to be supplied by the Navy, will finance all of the company's war production as well as eventual termination of contracts.



New Piper PT Experimental Plane: This new low-wing model, shown in flight and on the ground, is designed for multi-purpose duty, with excellent vision for both instructor and student. Non-strategic materials are used wherever possible. It is powered by a six-cylinder, 130-hp Franklin engine.



## New Piper Built for Multi-Purpose Job

Low wing primary trainer has two seats, concealed landing gear.

A new Piper experimental PT low-wing, designed to perform multi-purpose duties, is powered by a six-cylinder 130-hp Franklin engine, and cruises at better than 135 mph, flies at more than 150 mph, and yet lands at less than 30.

With wheels retracted, the Piper PT in flight has a definite purpose appearance and provides excellent vision for both instructor and student!

♦ Twin Instrument Panels—Instrument panels are identically placed on each side of the instrument panel, conforming over location or absence of any instrument. Non-strategic material has been used whenever possible, and special care given in design to assure ease of maintenance.

The cockpit cover has a top section hinging on the right side with sliding panels on each side and, with top section secured, the plane can be flown with windows up or down.

♦ Fuselage—The fuselage is of conventional sheet metal tubing. Warren truss construction, with various sections feature an integral side boom front and rear cockpit. Wood stringers are used and the turtle deck is of plywood. The fuselage is fabric covered, with the exception of removable inspection panels.

The full cantilever wing has built-up, box-type mainspar and wood ribs, composed of center section and two outer panels joining outboard of the landing gear attachment. Flap brackets and aileron are mounted on an auxiliary rear spar. ♦ 40-Gallon Fuel Tanks—The center section carries two stainless steel fuel tanks with total capacity of 40 gallons, addition to the leading and trailing edge fuel tanks. The wings are covered with mahogany plywood, which in turn is fabric covered.



KINGFISHER PRODUCTION COMPLETED:

Deliveries of one of the best known Naval aircraft, the Chance-Vought Kingfisher (OASU-3), observation seaplane, have been completed and production at the Stratford plant has terminated. It uses both both in landplane and seaplane versions.

## THE AIR WAR

### COMMENTARY

## Allies Shuffling Air Forces For Big Invasion Campaign

Lessons of North Africa, Salerno, and road to Rome result in new 15th Air Force (strategic) under Doolittle, while 12th becomes tactical force; Brettell may lead U. S. air tanks.

When one of the war's outstanding ground commanders writes a book on the use of air power it's news—even if the book is largely devoted to the prime importance of air power in combination with ground forces.

Not so long ago military leaders almost without exception were accustomed to think of the airplane as a battlefield weapon to be used in "support of ground operations." The sober weight of facts as shown in the campaigns in the Mediterranean during 1943 has changed all that. The principles underlying these campaigns and blueprinting those that lie ahead are embodied in a recently announced book by General Sir Bernard L. ("Moxy") Montgomery, which is being privately circulated among senior officers of the British Army and Royal Air

Force and also American ground and air generals.

► **The Air-Ground Team**—Dispatches indicate that as the textbook for the new invasion of Europe it is high up on the required reading list of every officer at this time. It is not likely that the rest of us will get even a peek at it "until the duration is over," but a general indication of its contents may be had by a careful analysis of past events. The logical place to start would be at an important official ceremony in Tripoli on February 14, 1943, when the Northwest African Air Forces were established under the command of LtGen. General Carl A. ("Toots") Spaatz. General Montgomery had just made a few remarks expressing in highest terms the value of the powerful air operations of the RAF and U. S. Ninth Air Forces in the

break-through at El Alamein and the spectacular pursuit of the Afrika Korps across Libya. Air Vice-Marshal Sir Arthur ("Mazy"—from "Moxy") Coningham, who with General Bertram was largely responsible for the tactical air offensive, responded in the following words: "You will notice that the Army Commander does not use the word 'Cooperation'. I submit that we in the Eighth Army are beyond the cooperation stage, and that work is so close that we are, in effect, one unit . . . There has been an actual co-operation by the Army and the natural result is that we have now passed beyond that stage into a unit or team in which one part automatically helps the other."

► **Tactical Air Triumph in Tunisia**—Coningham was then the liaison commander of the newly organized Northwest African Tactical Air Force, and Brig. General Lawrence S. Kuter became his deputy. The tactical air doctrine hammered out in the earlier desert fighting by General Montgomery, Air Marshal Tedder, Coningham, Bertram and Strickland, involving aerial RAF strafing and bombing, total area bombardment and German aircraft, was brought to a new peak in the Tunisian campaign as the rich experience of General Spaatz was thrown into the pot.

► **New Air Set-up in England**—The revolutionary nature of that new application of tactical air power is seen in two important steps taken early last summer, only a few weeks after the triumphant conclusion of the Tunisian campaign. The Royal

## THE TOUGH OF TOMORROW IN THE PLANES OF TODAY



## Reunion on the Field of Battle

These are Fairchild gliders—lifting men from Norway, Canada, the U. S. A.

Through they come from different parts of the world, these skillful warriors of the United Nations Air Forces have much in common.

Typical of thousands of fliers on every fighting front, each was given an intensive course in a Fairchild Primary Trainer as one important step on the road to winning his wings. Their soaring upon some distant sky is virtually a reunion of "old grads" of the same Alma Mater.

It is easy to understand why the Air Forces choose Fairchild for primary training.

There is the element of added safety. For example, quick take-offs and steep climbs can be performed by novices in a Fairchild Trainer without danger of collid-

ing, which caused so many fatalities in the last war. The trainer, behind a 175 or a 200 horsepower Ranger engine, just "peaks on the coil" and he's quickly in the air with a lot of runway to spare.

And when it comes to aerobatics, which gives a trainee an intimate feel of the controls and teaches him initiative flying, a Fairchild is the answer to an instructor's prayer. No need to crush the student's confidence by telling him not to dive at high speeds. Just teach him all the tricks in the book, with the full knowledge that safety has been built into every inch of every Fairchild Trainer.

Aerobability with great safety, and rugged landing characteristics—for which all Fairchild trainers are famous—provide the foundation stone of Fairchild's "touch of tomorrow" in the planes of today."

BUY U. S. WAR BONDS AND STAMPS

**Fairchild Aircraft**

AVIATION NEWS • December 28, 1943

Division of Fairchild Engine & Airplane Corporation, Farmington, Maryland, ... Burlington, North Carolina

### "ALMOST PERFECT BOMBING"

This photograph released by the AAF shows what the big air force forming in England hopes to do on an unprecedented scale in Western Europe to sever German communications. Described by the AAF as "almost perfect bombing," the direct hits on this Rhine bridge made it impossible to move traffic but did not destroy the entire length. Allied engineers will be able to repair the damage when they move up.

AVIATION NEWS • December 28, 1943

Air Force announced the winding up of its Air Support Command and the formation of a Tactical Air Force in England. This was quickly followed by an announcement by General Barker that the U.S. Army Air Forces based in England would be reorganized into a Strategic Air Force and a Tactical Air Force. The lessons of Africa, and more recently of Salerno and on the road to Rome, will be turned to powerful accrued in the coming invasion of the continent. Reports have persisted that General Brereton, who was in on the early developments, may head up the American air tactical program, and that Air Marshal Cunningham will head up the British, bringing this team together again for a tougher job than ever.

**American Army Doctrine**—The second result of the African victory was the official statement by the U.S. Army of the air doctrine that were so fully vindicated in that campaign. July saw the advent of a 22-page booklet, "FM 100-30, Command and Employment of Air Power," crystallizing under General Staff authority the air doctrine of the war to date and setting the pattern for the future.

**Air Power at Salerno**—According to FM 100-30, there are three phases of air operations to be carried out: (1) Attainment of air superiority (2) Isolation of the battlefield (3) Attack of ground objectives on the battlefield. In the three weeks preceding the landing on the Italian front over 17,000 sorties, dropping more than 16,000 tons of bombs in operations against the enemy air force and his communications. Airfields and installations were attacked; hundreds of planes were destroyed or damaged; bridges and rail junctions bombed with heavy, medium and light bombers and fighter-bombers taking part. While this activity continued, the next main at-



HELLCAT GOES ABOARD A CARRIER:

One of the Navy's newest fighters, a Grumman Hellcat, is hoisted aboard a big fleet aircraft carrier. Officer with megaphone is directing operations, while sailors hold line to the plane's tail.

tention was given to isolating the battlefield, and the big all-out drive to knock out strategic bridges, rail centers, to destroy supplies, trade, goods trains, etc., in order to cut off reinforcements was begun. The third stage was the actual landing, and owing to the task of certain new ranges, night-landed and daylight-landed aircraft crews drove themselves, and also had to take for a day or two, but by throwing in the entire strategic air force, the tide was turned and the victory won.

**New Springboard**—An air base in southern Italy became available, fighters and medium bombers were transferred from Africa, and the Americans are expected to be in operation shortly from such strategic

bases as Foggia, with its command of the Aegean Sea and the Balkans, as well as important targets in northern Italy, southern France, eastern Germany, Austria, Hungary and Slovakia. The newly formed Fifteenth, under Maj. General Douglas, has become the Strategic Air Force. It is the first major command with conditions as the Tactical Air Force, possibly to be commanded by Maj. General House who led the Balkans air operations, or Maj. General Cannon, who succeeded General Kuter last May as deputy commander of the Northwest African Tactical Air Force.

These air-ground teams appear to be set for the big doings.—NAVFLATES



RETIRING FORTRESS VETERANS:

The Signal Corps photographed these two battle-worn Flying Fortresses, "Little Eva" and "Special Delivery," on a field somewhere in North Africa. Con-

sueased for further combat service, they are being dismantled and stripped of parts to be used for making repairs on other damaged planes.

been large enough to accommodate them and the technicians operating the tests.

## Device Saves Tires

Goodrich tires wear landing wheels sailing at plane near ground.

Pre-landing rotation of airplane wheels in case wear and tear of landing impact, long on objective for streamlined engines, is attained by Henry F. Schaeffel, test engineer of H. F. Goodrich Company, who discloses invention of a self-aligning air plane tire that will attain high rolling speed before it touches ground.

**How Used**—This pre-landing safety, he explained, requires no extra controls. Control of the chamber air is manipulated by an engine outside the walls, who is in constant communication with the men inside by interphones, and who watch through a glass port, ready to turn air back into the chamber and "bring it down to earth" at the first sign of trouble. **Cost \$10,000**—The apparatus was constructed at a cost of \$70,000 and took more than a year to build. Colonel Franklin C. Wolfe, armament laboratory chief, explains that because of the size of armament units such as barrels and guns, none of the other chambers at the field had

ing units of a cold test is in progress.

Control of the chamber air is manipulated by an engine outside the walls, who is in constant communication with the men inside by interphones, and who watch through a glass port, ready to turn air back into the chamber and "bring it down to earth" at the first sign of trouble.

**How Works**—Two large vacuum pump units suck air from the chamber, to get the lower pressures found at high altitudes, and their capacity is such that the chamber can simulate an air pressure change from sea level to 40,000 feet in 15 minutes, and to 10 miles in 30 minutes.

Four electric fans in front of 40 kilowatt electric heaters can produce heat in the chamber up to 175 degrees above zero, while a two-stage refrigerator unit sends a refrigerant through coils in the walls of the chamber to cool it, if necessary, to 75 degrees below zero.

**To All Conditions**—"We can find out exactly how guns, tanks, and other mechanized armament equipment work under every condition—heat, cold, and altitudes even higher than those at which our present planes can fly," says E. M. Eiders, aviation engineer in charge.

Technicians using the chamber enter it through an airlock of the apparatus to already simulate high altitude. This enables them to ascertain their bodies to the change in pressure more gradually, so that they do not suffer from decompression, the high altitude disease similar to decompression disease.

**Other Equipment**—Inside the big chamber they attach oxygen masks to tubes hanging from the walls, and plug in their electrically-heated fly-

## AIRCRAFT PRODUCTION

### Army's Cold-Pressure Chamber Aids Design of Plane Armament

Special chamber at Wright Field put into operation after a year of construction and one of \$70,000; research to prevent gear failure at high altitude.

By ALEXANDER McSULLY

Army Air Forces Material Command Aircraft Laboratory at Wright Field has started use of a huge new cold-pressure test chamber, largest of several such test rooms, and one of the largest in the world. The room is 38 feet in diameter, 36 feet high, with walls of three-quarter-inch steel lined with 13 inches of insulation. A ten-ton load, also of steel, can be lifted off by a crane to permit entry of large pieces of armament equipment into the chamber.

**Heavy Changes**—Two large vacuum pump units suck air from the chamber, to get the lower pressures found at high altitudes, and their capacity is such that the chamber can simulate an air pressure change from sea level to 40,000 feet in 15 minutes, and to 10 miles in 30 minutes.

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WRIGHT FIELD'S COLD AND PRESSURE CHAMBER:

Some of the new cold and pressure chamber in Wright Field's armament laboratory is indicated in the photo parts. The experts enter the chamber through the airlock door at the right. The ten-ton load can be lifted to prevent entrance of large piece of armament equipment for sub-zero testing.

# Trail Blazing in the Skies

1925



**THE LARGEST COMMERCIAL NON-RIGID AIRSHIP FLEET** in the world was built and flown by Goodyear in the interval between World Wars I and II. Beginning with the launching of the ship M-1 in 1925, no less than twelve airships have flown the Goodyear flag from eight operational bases, located from coast to coast. These ships flew a total of 4,000,000 miles without a single mishap, providing a great increase of knowledge regarding air structure, meteorology and shipboard engineering that has been of inestimable value to the nation in wartime. *Veteran-bliss* operations.

## HOW GOODYEAR AIRCRAFT CORPORATION SERVES THE AIRCRAFT INDUSTRY

1. By maintaining laboratories to maintain quality.
2. By designing parts for all types of aircraft.
3. By manufacturing parts for mass production.
4. By advancing our research facilities to aid the solution of key design or manufacturing problems.
5. By building complete airplanes and aircraft.

1943



### THE LARGEST NON-RIGID AIRSHIP EVER BUILT

is the new M-1, recently completed by Goodyear Aircraft for the United States Navy. Approximately 30% larger than the Goodyear-built airships now so effectively patrolling America's coastal sea lanes, the M-1's wider cruising range and greater bomb-load capacity make it a more effective member of the anti-submarine team. Distinctive feature of the M-1 is its three-unit, articulated control cabin that distributes its weight over a larger area of the envelope — a novel application developed by Goodyear Aircraft out of long experience in lighter-than-air designs.



**GOOD**  **YEAR**  
**AIRCRAFT**



longly demonstrated in tests. He said special tires of the 17-90 by 18 size used that the company had furnished to a commercial airline had "successfully made more than twice as many landings as the average delivered by conventional tires of the same size in similar service."

**Smooother Landings**—Pedler added that, although reduction in landing-impact was the primary reason for the new device, the already-spinning wheels make possible noticeably smoother take-offs. Landing-shock absorbers have been an increasingly critical problem to the aviation and auto industries in recent years, as a result of tremendous increases in plane size and weight, de-creased tire sizes and higher landing speeds. Pre-rotation should contribute to lessening the strain on landing-gear assemblies.

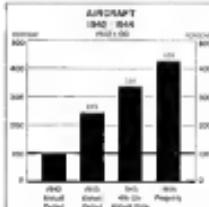
## Fairchild Steps Up PT-26 Production

Output of PT-19 increased at Hagerstown plant for new model

Production of an undesignated member of PT-26 Cornell trainers, which were used by the Royal Canadian Air Force and by the Royal Norwegian Air Force at "Capo" Hagerstown in Canada, is now under way at Fairchild Aircraft in Hagerstown, Md.

Fairchild interrupted its PT-26 production schedule for the new line.

The Fairchild PT-26 is a refinement of the better known PT-19, as powered by a 300-hp Ranger inline six cylinder engine. It has a sliding cockpit enclosure, color





#### CANADIAN ASSEMBLY LINE:

Aircraft workers in Canada, as in the United States, are setting production records. This new view of First Aircraft, Ltd., plant at Port Erie, Ont., shows sleek Fleet under construction. In the foreground is the aircraft assembly line, with final assembly in the rear.

industry, has a steward in the expressed view of J. C. Garrett, president of Airsearch's parent, Garrett Corp., that he possesses a basic diesel engine design (two opposed pi-

sons per horizontal cylinder)—no cylinder heads or gasoline/diesel fuel injection—low center of gravity) that has great possibilities.

► **Uses**—Uses for Airsearch diesels,



#### HAMILTON DISPLAYS BIGGEST BLADE:

This 20-foot-diameter propeller recently was constructed by Hamilton Standard Propeller Division of United Aircraft Corp., and is believed to be the world's largest. It was built for test purposes and is not scheduled for any specific plane. The huge blades are shown beside the "large" prop of a Flying Fortress or ordinary commercial airliner, 11% feet in diameter.

and in the experimental stage of development, are envisioned to include: airplane passenger cabin and cargo pre-cooling, airport power and light, as well as trains and bus air conditioning, railway quadriflex, industrial heating and service power for small industries and consumers, industrial power and pleasure boat and automotive power.

Airsearch officials believe a diesel for small planes may be evolved.

► **Pressurized Cables**—Their engineers have devised pressurized surface cables which will keep the passengers at sea-level comfort. They have been perfecting controls to hold pressure constant during climbs and descents, to adjust pressure gradually during engine flight from low to higher altitude segments.

Source of Airsearch diesel interest is the company's purchase of the Covier diesel power plant, the remaining half of diesel experts associated with a Garrett subsidiary, Northill Co. Northill's success in manufacture of pre-war diesels was only causal and its diesel program, now being given new life by Airsearch, came to a halt with the unsuccessful manufacture and sale of the lightweight Nordberg Beaufort Aviator, invented by Jack Nordberg, president of Nordberg Aircraft. Pre-war use of the Nordberg undercarriage flying boats spread to world-wide distribution as standard equipment for small yachts and motor boats.

► **Sea-Level Comfort**—Airsearch has been little better than a shadow of its work in the beginning because much of its work is under military restriction, but the firm is intent upon staying in business after the war and has layed national advertising to the suggestion that "while your postwar airline flies at 14,000 feet, the Airsearch pressurized cabin will keep you at sea-level comfort!" That the company should issue to employees "Postwar Questionnaire No. 1" based entirely on determining their reaction to a post-war diesel program was of definite incentive to the industry.

#### New Navy Prop Order

A new contract for a large number of hollow steel propeller blades has been awarded by American Propeller Corp., Toledo.

William F. Wiss, president of the propeller company and executive vice-president of AVCO said the blades will be used by the Navy. Other combat type planes for which American Propeller blades have been made include the Thunderbolt P-47, the Arado 234, and the Mitchell B-25 medium bomber.

## Joint Meeting With Councils Considered for Chamber Planning

Changes in by-laws, election of new Board of Governors, and important decisions on organization are deferred indefinitely.

Results of the recent membership meeting of the Association Chamber of Commerce, while forecasting another year of growth, called for continuation of the chief executives of leading aircraft companies in the Chamber, also indicated definite steps would not be taken immediately.

These remains little doubt that industry leaders are desirous of having a strong national trade association which can speak with authority on matters affecting the industry generally. At the same time, prime concern of all these men now is to meet accelerated production schedules. Once aircraft output reaches desired goals and no longer needs the full attention of chief executives, they undoubtedly will turn their attention to their national trade association.

► **Name Change Likely**—A possible change in name and location of membership to manufacturers was indicated by the comment of those attending the Washington meeting. One tentative suggestion for a new name was "Aircraft Industries Association," designed to identify it more clearly as a trade association representing the aircraft manufacturing industry.

Pending by-law changes, the election of a new Board of Governors and a new name for the organization were deferred until after a special meeting of members. It was considered likely that this meeting would be held in conjunction with the next meeting of the National Aircraft War Production Council, whose members also are members of the Chamber, in order to assure the largest possible attendance of industry leaders.

► **Board of Governors**—The new Board of Governors is expected to include the heads of six West Coast and six East Coast manufacturers of airframes and/or engines, two manufacturers of aircraft parts and accessories and one representing other members.

Proposed nominations for officers, to be acted on by the new Board were: Donald W. Desjardins, chairman of the board; J. Carlton Ward, Jr., of Fairchild, president; vice-president, LaMotte T. Cohn, of Northrop; L. D. Bell, of Bell Aircraft; treasurer, H. W. Cohn, Northrop; secretary, L. E. Taylor, of Douglas.

tered by falling bombs has been developed by Westinghouse engineers at East Springfield, Mass., as a fuse for 20-lb fragmentation bombs.

A. L. Atherton, manager of quality control, first applied the wind tunnel test to these fuses, which are fastened on the bomb case as a safety device to prevent contact with detonator fragmentation bombs.

► **Prevents Explosion Instantaneously**—The safety fuse on the bomb prevents detonation until the bomb is safely away from the plane. To pass the word "armed seat," a fuse is "dropped" instantaneously at 250 miles an hour, 500 miles an hour and 600 miles an hour.

To test a fuse, a technician places it inside the tunnel in the path of compressed air to be fired from a cylindrical tank. A switch starts an automatic timer and opens a magnetic valve. As the valve opens, a beam of light strikes from the tank through a reducing lens to the fuse, which is in series with a safety device. As the safety device fires off, it permits a beam of light to strike a photoelectric cell. This causes the cell electronically to close the valve and stop the timer.

#### Tunnel Tests Fuses

Westinghouse's tiny model alone has 800 triple gates.

A three-foot-long wind tunnel which creates 200 to 600 mile gates to simulate wind current measurements.



#### UNITED BREAKS PRODUCTION RECORDS:

Chance Vought Aircraft Division of United Aircraft Corp. has topped its delivery quota during eight of the last nine months, according to Ray R. Reuel, general manager, who said November output of the Vought Corsair fighter, shown in the news picture above, such wings folded, exceeded substantially the quota set for the period. Reuel said increased schedules for December will be met.



## STARTING JANUARY 18TH IT'S UP TO YOU!

**S**TARTING January 18th, it's up to you to lead the men and women working in your plant to do their share proudly by helping to put over the 4th War Loan.

Your Government picks you for this job because you are better fitted than anyone else to know what your employees can and should do—and you're their natural leader. This time, your Government asks your plant to meet a definite quota—and to knock it, please!

If your plant quota has not yet been set, get in touch now with your State Director of the War Finance Commission.

To meet your plant quota, will mean that you will have to hold your present Pay-As-You-Go Deficit Plan payments at their peak figure—and then give at least an average of one EXTR \$400 bond from every worker!

That's where your leadership comes in—and the lead-

ership of every one of your associates, from plant supervisor to foreman! It's up to you to see that your fellow workers are told the finest investment in the world. To see that they buy that share of tomorrow—of Victory!

That won't prove difficult, if you organize for it. Set up your own campaign right now—and don't wait for anything less than a 100% record in those more \$400 bonds!

And here's one last thought. Forget you ever heard of "10%" as a measure of a reasonable investment in War Bonds under the Pay-As-You-Go Deficit Plan. Today, thousands of families that formerly depended upon a single wage earner now enjoy the example of several. In such cases, 10% or 15% represents but a paltry fraction of an investment which should reach 25%, 50%, or more!

Now then—Up At Thee!

### Keep Bocking the Attack!—WITH WAR BONDS

This space contributed to Victory by AVIATION NEWS

This advertisement prepared under the auspices of the United States Treasury Department and the War Advertising Council

## PERSONNEL

**B**enard G. Hynd, (left) has been named manager of the Oklahoma City modification center of Douglas Aircraft Co., where he will have charge of all modifications on C-47 cargo transports. He was formerly assistant manager

William J. Worth, for two years accident investigator and safety inspector for Goodyear Engineering Corp., has been appointed safety engineer for the Louisville division of Consolidated Vultee Aircraft Co. He has joined Goodyear. Worth was with the Johnson Dahlberg for eight years.



**K**enneth Lessman, junior assistant superintendent of Valley Field, has assumed his new duties as works manager of the Louisville division of Consolidated Vultee Aircraft Co. Lessman, 31, has been working at Valley Field three years ago. Lessman worked for Voight-Kaessky for 11 years. Starting in the experimental department, he was section superintendent when he left. Prior to that, he served a five-year apprenticeship in tool and die work with Remington Arms.

**D**r. Samuel A. Mass, General Electric engineer, will receive the Sylvanus

Albert Reed

Award for 1943. It will be presented at the Honors Night dinner of the Friends of the Israelites of New York Jan. 26. The dinner is being conducted annually by the Institute of the Aerospace Sciences in recognition of his contributions to aerospace engineering. Dr. Mass is currently director of the Aerodynamics Division of the Research Department of the International Harvester Company, which has made possible the high altitude operation of aircraft. Dr. Mass received the 1940 Collier Aviation Trophy jointly with the Army Air Forces, and also one of General Shephard's Coffey awards for his supercharger work. The 1943 winner of the Sylvanus Albert Reed Award was Capt. J. Bokrosky.

**S**tein E. Lewis heads the education department of Consolidated Vultee's Marine division. Transferred down the San Diego division, Lewis previously specialized in aircraft engine and aircraft engine test. He is a graduate of the University of California, Berkeley, and received his B.A. engineering degree from the University of California. Lewis has been placed in charge of all vocational training.

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**W**. G. Selsam, who joined Fleetwings last fall as assistant to the vice-president, has been appointed assistant secretary and assistant treasurer. He was next with the Sperry Gyroscope Co.



**C**. S. Gleason, Deftt has been appointed assistant chief engineer of the experimental section of Consolidated Vultee's engineering division. For the last two years he has been in this section, developing landing gear. He was formerly a stress analyst for the company. C. W. Davis (right) formerly by general supervisor of structural assembly on the C-87, has been promoted to shift supervisor. For over two years he has been working in the organization and layout of Douglas Aircraft Corporation's new Chicago plant.

**H**. W. Schlesinger will direct inspection activities in all divisions of North American Aviation, Inc., as a result of his appointment as director of quality control at the company's Inglewood, Calif., headquarters. He was formerly quality control manager at Kansas City, where he is succeeded by Harold J. Brown, assistant consulting manager. Robert McCallen, former quality control director, has been made general manufacturing manager on the General Offices staff.

**G**en. Gen. Frederick L. Anderson, commanding officer of the Eighth Air Force, has been promoted to a major general. At 45, he is one of the youngest major generals in the American Army. He recently was awarded the Congressional Medal of Honor for leading the American bombing attack on the Ploesti oil fields in Rumania.

**S**teve H. Retinger, with Kresser Aluminum Co. for over a year as sales manager, has been advanced to sales manager. In his new capacity, Retinger will promote production, management, and sales meetings of aluminum and magnesium, with particular emphasis on the new pressure-type castings. Partner planning and committee work of new developments used in war products to prevent needs also will be among Retinger's concerns. Before joining Kresser, he was with the Western Fireproof Oil Co. and Union Oil Co. of California.

R. Douglas New (right), resident manager of the Heron, Cal., division of Ryan School of Aeronautics since July, 1942, has been transferred to the



director of Douglas' feeder plant system now being extended to facilitate production at the company's Santa Monica plant. Feeder plants are designed to take low labor supplies by taking aircraft work into outlying southern California cities. Douglas tracks every need to feeder plants and provides all parts and materials for installation. McKenna, who holds a pilot's license and occasionally sits as co-pilot in company test flights, has been supervisor of final manufacture on the C-46. Previously, as supervisor of the experimental department, he had charge of construction on the B-19.

## TELLING THE WORLD

"Reazon in America" will be the theme of North American Aviation's advertisement in January issues of national magazines illustrating and describing a soldier's homecoming, the ad will run in Look, Collier's, Life, Literary American, Good Housekeeping, Newsweek and Saturday Evening Post.

► WPA has ordered 4,000 copies of The Reporter, house organ of Edward Stern & Co., Philadelphia printing establishment, for distribution to its key personnel and to industry. Current issue is devoted entirely to its 100th anniversary. Advertising line-ups are showing what they accomplish, and why more are needed. Bridgeport Ring and Packard Motor Car Co. are cited as examples of the advantages of good labor-management cooperation.

► Canadian Car and Foundry Co., Ltd., Montreal, has issued the first edition of a new illustrated house organ, Canadian Car Journal. Published in both English and French, the first issue, of 10 pages, was printed on coated paper using two colors.

within the next few months. Designed to establish a stronger link between engineering and shop, the handbook will be an interpretation and compilation of data from applicable Army and Navy specifications, technical reports and publications.

► Minneapolis Daily Times ran a special section recently to accommodate Northwest Airlines' progress through its seven-year existence. The 16-page section contains stories of Northwest's organization, growth and prediction of future air service. Ads from numerous well-knowns also ran.

► A 16-page brochure entitled The Airline and Your Community, prepared for Transcontinental & Western Air, appeared recently. It tells of TWA's place for the future; outlines the intensive development of its already broad territories; uses three-color maps illustrating TWA's network of routes; and discusses problems before CAR. It is a "vision of tomorrow's airline development." Jack Fry, president, says in the introduction, the ad will run in Look, Collier's, Life, Literary American, Good Housekeeping, Newsweek and Saturday Evening Post.

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## Oldest Aero Club

William Carroll Hill, retiring secretary of the Aero Club of New England, claims his organization is the oldest aeronautical club in the world, having been established in 1903.

► The 10th annual meeting of the organization is Boston, Monday, and the club was founded Jan. 3, 1903, when eleven well known Bostonians, meeting socially at the Massachusetts Club, signed a compact to associate as a club and to indulge in the sport of ballooning.

Prof. A. Lawrence Koch, of Harvard University, founder and director of the Blue Hill Observatory, became the first president of the club, which has been in existence since 1907, the club coming without formal organization as election of officers up to that time. Similar clubs were formed shortly afterward in North Adams, Pittsfield, Springfield, Worcester, and other cities and at Williams, Amherst, Harvard, Dartmouth and many colleges in New England.

School's Tucson base as manager. He is succeeded at Heron by Fred Wilcox (left), civilian director of flying, who has been with Ryan for more than 10 years. Wilcox's place as taken by C. W. (Bill) Evans, Ryan's "young gun" boy, a former group commander and formerly a student with Ryan in San Diego.

Arthur Smith, Jr., will be transferred from the Chicago office of Dow Chemical Co., where he was in the magnesium division, to head a magnesium sales in the Southeastern territory. Assuming his new duties about the first of the year, Smith's territory will include Wichita, Kansas City, St. Louis,

Tulsa, Tulsa, Oklahoma City and Fort Worth. He has been with the Dow Chemical Company for the past six years. His headquarters will be in St. Louis.

Water S. Mellasses, chairman of the Board of the National Bank of Detroit, was elected a director of Bendix Aviation Corp.

New supervisor of field operations at Douglas Aircraft's Santa Monica plant is Earl T. Bush, (left) supervisor of the engine department for the last two

years with Douglas since 1938. He will be responsible for final tool checks and trials of all CM-254 Shrike and A-36 Huracan. Companymen, G. M. McKenna, (right) was named con-



pany supervisor of "recipes" for constituting aluminum airplane parts will make his debut in the production departments of Fleetwings, division of Kaiser Corp.

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## FINANCIAL

### Proceeds from United's Stock To Set Record for U.S. Airlines

Registration statement filed with SEC shows company will enter power era in formidable financial position, Commercyator says.

By ROGER WILCOX

A milestone in airline financing will be established by United Air Lines as it prepares sale of preferred stock. Approximately \$34,400,000 is expected to be realized and will represent the largest amount ever raised by an air carrier. The proceeds will be applied for future expansion requirements if and when needed.

► **Refunds Due.**—United, in filing its preliminary registration statement with the Securities and Exchange Commission, has made available many items of considerable interest to the stockholders and those interested in the air transport industry.

Among stockholder approvals, a class of \$66,000 shares of 4% participating cumulative convertible pre-

favored stock of \$100 par value will be issued to the company to offset immediately 10,000 shares of the new stock. The common stockholders will be given the right to subscribe 30 the preferred at the rate of seven shares of preferred for each 100 shares of common issued and accrued on December 30, 1943. In this manner, the present equity holders may be able to protect their interests from dilution. It also means that the stockholder will be required to add more money to his original investment if subscription is made to the new stock.

► **"Rights."** Marketable — However, these "rights" will be marketable and can be sold if desired. Their value is dependent upon the market acceptability of the stock. This value will have to be evaluated after the issue has been "priced" and the conversion rate made known. Thus far, the indications are that the offering price will not exceed \$100 per share. The rate at which the preferred will be convertible into common is not now known but will be supplied by amendment. It is this element which will provide the speculative attraction.

In view of United's \$30,573 stock-

holders owning an aggregate of 1,500,000 shares, a lively market for the "rights" may be anticipated. These "rights" will be exercisable starting December 30, 1943, and expire on Jan. 15, 1944. A tangible benefit will occur to those stockholders who find either to sell or exercise their "rights" during this period. By purchasing them, other investors can acquire a position in the new preferred.

► **Unsubscribed Shares Saleable.**—Harriman, Ryker & Co. appear as the principal underwriter. However, the bankers will be faced with marketing only those shares which are unsubscribed by the common stockholders.

Further, pending approval by stockholders, and subject to future market conditions, the company will issue 100,000 additional shares of the new stock. The common stockholders will be given the right to subscribe 30 the preferred at the rate of seven shares of preferred for each 100 shares of common issued and accrued on December 30, 1943. In this manner, the present equity holders may be able to protect their interests from dilution. It also means that the stockholder will be required to add more money to his original investment if subscription is made to the new stock.

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► **More Competition Possible.**—The Commercyator also observes that the CAR, acting pursuant to the Civil Aviation Act, may create additional competition by issuing new certificates to "new air carriers, including railroads, bus lines and other surface carriers." Considerable opinion, including statements attributed to members of the Board itself, has taken the position that surface carriers are, under the terms of the act, barred from air transportation operations.

► **Working Capital Assured.**—As of September 25, 1943, United had about \$16,000,000 in net working capital. In addition, \$2,012,000 was carried over in cash at the U.S. Government account for the replacement of dysentery equipment sent to the United States Army. With the proceeds from the preferred stock financing, the company will have another \$16,000,000 at its disposal. All in all, United should enter the post-war period in a very formidable position.

## DIVIDENDS

► **United States Plywood Corp.** has declared dividends of 30 cents a common share, payable Jan. 16, 1944, to stock of record Jan. 16, 1944, and \$1,175 per share as preferred, payable Jan. 16, 1944, to stock of record Dec. 26, 1943.

► **Bellanca Aircraft Co.** has declared 86 cents on common, payable Feb. 1, 1944, to stock of record Jan. 16. Disbursement will be the first since a 40-cent payment was made in December, 1938.

► **Alfa Associates, Inc.**, 20 cents as common, bringing payments for year to \$1, compared with 12½ cents in 1942.

► **Bendix Aviation Corp.**, 75 cents a share, payable Dec. 31, to stock of record Dec. 17.

**Lockheed Aircraft Corp.** has voted a dividend of \$8 cents per share payable Dec. 30 to stock of record Dec. 15. The written word is in line with Lockheed's policy of voting dividends from time to time as credit-worthiness warrant, without regard to specific purpose or date. Robert E. Gross, president, pointed out that the dividend was not to be construed as a regular quarterly declaration, or as payment which established any schedule or policy for future payments.

## No Martin Refund

**Messingair** Board finds no excessive profits in 1943 business.

Finding no excessive profits in 1943 business of Glenn L. Martin Co., the Army Reconstruction Board has agreed at an agreement with the aircraft company under which no refunds will be required.

Glenn L. Martin, president, commented that it would be unnecessary, therefore, for his firm to make any adjustment in the annual statement issued last March. No provisions for refunds had been made in that statement.

**1943 Base Double**—Martin said the operations of his company during 1943 were at approximately double the 1942 rate. At the same time, he said the company's efforts will be

intensified greatly during next year under the war production program which heavily emphasizes aircraft.

## Canadian Car's Plant Tests 1,000th Plane

**Anthorn, N. S.**, works averages one day over 1,000-day period.

The 1,000th aircraft built, assembled or overhauled at the plant, Canadian Car & Foundry Ltd., at Anthorn, N. S., recently was test flown at the plant.

The plane was a new Avro Mark V twin-engine bomber, one of several types made or assembled by the company at the various plants throughout Canada. The Avro Mark V is made under supervision of Federal Aircraft, Ltd., a government company, which has set up various component manufacturers throughout the Dominion.

**Mark of Prowess**—As a result of wartime experience, the aircraft is largely wooden, bulk of plywood largely wooden, bulk of plywood construction as described in a previous issue of Aviation News. It is assembled at a number of plants, of which the Anthorn factory is one. Another is McDonald Bros. Aircraft Ltd., Winnipeg. Canadian Car & Foundry makes part of the components, the wing sections at the Montreal Turcot Aircraft plant, pro-

pellers at the Montreal Propeller plant.

Canadian Car & Foundry has been building aircraft since before the war, designing its own fighters, the Gregor, and building Grumman fighters for Turkey at its Fort William, Ont., plant which is now devoted to construction of Curtiss Helldivers for the United States Navy. Parts for the Helldiver also are made at the Montreal Longue Point plant of the company and the propeller plant at Montreal.

**Improved Model**—The Avro V is an improved version of the Avro I, which was a four-bladed bomber with Clerget IX, 335-hp, engine. The Avro V has the same wings as the earlier version, but has a fuselage of plywood designed for navigation and bombing instruction. It has a hydraulic system for automatic operation of flaps and undercarriage, is powered with two 430-hp Pratt & Whitney Wasp Junior engines, and cruises at about 145 mph. Top speed is about 180.

**Carryes Gas for Four Hours**—It can cruise for four hours, carries 140 gallons of gasoline in four tanks. The wing span is 58½ feet, length is 43½ feet. It weighs 3¾ tons empty and slightly over 4½ tons loaded. Behind the pilot's seat along the port wall are three desks for first navigator, wireless gunner and second navigator. Special fittings include an extra clause in the rear and a camera hatch in the floor.

## TRANSPORT

## Essair Pushes Plans To Start New Feeder Route Early in 1944

CAB's omission of usual "national defense" phrase believed to clear way for establishment of Texas aerial service.

Encouraged by the Civil Aeronautics Board's omission of the usual "national defense" phrase in its new certificates, Essair, Inc., officials forecast an early opening of the test feeder line in Texas authorized by the Board.

E. Y. Holt, vice-president of the Dallas firm, now building prefabricated huts for the Army and Navy, plans to make arrangements for personnel, facilities and equipment soon after the first of the year. While making no prediction when service will start, he comments that "if we can get into operation (in the meantime) we ought to strike a fertile field," an indication that Essair is counting to some extent on traffic among the numerous army camps in Texas.

**Delayed by Defense Needs**—In issuing Brandt and Continental certificates, the Board ordered that service shall not be started until the

end of 1945. First to sufficient a true "feeder," it calls for service between Houston and Amarillo via Austin, San Angelo, Abilene and Lubbock, on condition that all intermediate points be served on each scheduled trip and traffic reports be submitted periodically.

In the same action, CAB gave Continental a three-year approval of service from Hobbs, N. M., to San Antonio, and amended Brandt's AM 26 certificate to include Austin. It denied Brandt's application to provide service between El Paso and San Antonio. Application of Royal and Continental for further routes under construction and the same preceding also were denied.

**Delayed by Defense Needs**—In issuing Brandt and Continental certificates, the Board ordered that service shall not be started until the

holder is notified that the national defense no longer requires delay. This qualification was omitted from Essair's certificate, a circumstance interpreted by that company as effectively effecting grant of priorities to Essair, although the qualification is the usual thing and often is followed soon by the permanent notice.

Holt anticipates no difficulty in obtaining non-engine equipment, probably Lodestar. His company has knowledge, he says, of at least 15 suitable planes, now owned by individuals, of which some might be available. A manufacturer of twin-engine five-passenger planes has communicated with him, and Essair recently had opportunity to purchase two sets.

**Plane Available**—Essair does not expect to encounter a pilot shortage, says its official, adding that he already has had offers from pilots interested in the prospective feeder operation. As further evidence of interest in the Board's decision, he cites long-distance calls from civic leaders in Texas cities not named in the new certificate, asking that Essair include those municipalities in its feeder routes.

## New Haven Ad Urges Rail-Air Coordination

Full page advertisement runs in eastern newspapers.

By MERLIN MICHEL

The railroad aroused interest in aviation circles last week when it advertised in eastern newspapers for "a coordination of interest between an established airline and our rail and highway systems."

By name, the advertisement was interpreted as an invitation by the New Haven to the air carriers to participate in its New England Airlines, Inc., formerly TWA-New England, from which TWA has since last summer. Had the advertisement not referred to "established airline," it was suggested, it could have meant that the railroad desired to operate New England Airlines itself as a unit with its ground systems.

**Filed for Five Routes**—This prospective air carrier, in which the railroad was to hold a minority interest, had filed for five routes, two of them between Newark-New York and Boston, totaling 613 miles among various intermediate points in the New England area.

Others noted that the seven-column display appeared on the day the House Rules Committee was to



PLANT MOVIES HELP CUT ABSENTEEISM:

At least four West Coast plane plants (Douglas, Lockheed, North American, Northrop) are showing recreational movies to employees at night during lunch and graveyard shift changes. Both 16-mm. and 35-mm. projectors are used, and films are usually brief at 15 lunch periods—news, comedy, romance and animated "shorts." March of Time, and Army combat pictures. At Lockheed and at General Electric's Erie plant (pictured), full-length features are shown into our parts and shown as serials. The various workers may miss the crucial installation if they skip a shift. Lockheed company distributing motion picture is Filmex, Inc., New York City.



SIX AIRLINES LOOKING TO DC-4

This specially posed picture shows "passengers" near an unoperated Douglas C-47, military version of the DC-4, which six airlines have disclosed officially that they plan to fly in transcontinental service after the war. AVIATION NEWS last October, reported the lesser agreement with Douglas. Participating in the unannounced were American, Eastern, Pan American, Pan American-Globe, United and Western Air Lines. TWA, which is bearing post-war hopes on the Lockheed Constellation, was not included.

consider the Lom bill to revise the Civil Aeronautics Act—an action postponed, incidentally—and construed it as the first such declaration by any of the railroads as to the issue whether surface carriers shall be permitted to engage in air transportation.

► **Cisco Knowledge of Area**—The New Haven, discussing "our place in the air future of Southern New England," cited its knowledge of that

will work in peace. We believe America will give her railroads the opportunity to prove it."

A Boston attorney, who has been handling New England Airlines applications, said he understood that, despite TWA's worldwide plan to hearings in the New York hearing, the New Haven had its policy to prevent the application. The railroad announced some time ago that it intended to continue its bid for air operation, but the attorney emphasized that it would do so as a minority, non-controlling interest.

► **Speech Circulated**—The Transportation Association of America, a few days after the New Haven's advertisement appeared, circulated a speech by Samuel B. Pettengill, vice president and general counsel, in which integration of water, rail, highway and air facilities into "competitive common carrier transportation systems was advocated. "The division of traffic between railroads, roads or pipelines should be based on performance and price alone," Pettengill said. "The time has passed for one transport agency to try to was over another by its finance in legislative committee rooms!"

Also of current interest was a letter to Pennsylvania railroad stockholders by M. W. Clement, president, in which he said the policy of the Pennsylvania is "to perform a complete transportation service by rail, with such accessory services as are necessary. . . . The Pennsylvania Railroad has no desire to become a monopoly. It rather seeks to dominate rail transportation routes at least as far as possible in other fields." Clement added that while his road was an originator of transcontinental air service, "today it is not financially interested in any air lines."

## Bus Lines Ask Delay On Feeder Routes

Greyhound and Blue Ridge presented three-point plan to CAB.

A possible temporary solution to the situation worrying all applicants for feeder or local air service, who see the existing carriers spreading out into what they consider infringement of their potential territory was offered by Greyhound Corp. and Blue Ridge Lines in recommendations to the Civil Aeronautics Board.

Admitting the CAB is "confronted with an administrative problem without precedent in the history of

the regulation of transportation in this country," Greyhound makes the following suggestions on what procedure the Board might follow in connection with the immediate and future development of air service to smaller communities:

► **Passenger decisions**, until all applicants who seek authority for any point or any route have a chance to be heard;

► **Routefinder** any additional services granted to trunkline carriers so that no points closer than 250 miles apart could be served by these carriers;

► **Issue only temporary certificates**, reserving the right to reexamine and, if necessary, revoke such certificates after consideration of all applications.

Greyhound points out that it is not advocating the denial of air service to any point now in need of such service. It feels, however, that if the trunklines are given permanent certificates to serve areas not yet certified, the effect will be to deprive the future local operator of the nucleus of traffic that will be essential to their successful operation. Or, as expressed by Blue Ridge, "any other plan may only lead to trunklines lifting the 'creams' points and leaving only the 'skimmed' points to the feeder service."

► **Discussed at St. Louis**—This topic was one of those under discussion at the recent St. Louis Convention of the National Aviation Trade Assoc. and the Aviation Distributors & Manufacturers Assoc. Every new in-

termediate point granted on the route of an operating carrier brings concern to applicants in the local field, as they see another potential point on their proposed routes being awarded, if not already.

The railroads petitioned the road part, that they were best able to hold up the necessary local service adjacent to and paralleling their trunkline routes.

► **Warning in Policy**—Some government officials expressed the opinion that the suggestions included in Greyhound's memorandum were valid. Of interest is there also was what might be called a warning in the memorandum filed by Blue Ridge Lines. It said, in part: "If we are to protect the air transportation pattern from the present scramble of trunkline carriers for new routes and new points to the detriment of the establishment of local service to communities through feeder routes, we must immediately take legal action to prevent this local service to its communities . . . thus board must use care and caution during the present national emergency to see that a policy is adopted that will not give a pre-empted right to [trunklines] over applications filed but not yet heard."

## Longest Airline Open

The Army has established the world's longest air freight line, from Patterson Field, Ohio, to Iwakuni, a 20,000-mile round trip C-45's, assigned by the Air Transport Command, are operating the line on scheduled service for the Overseas Supply Section of the Air Service Command.



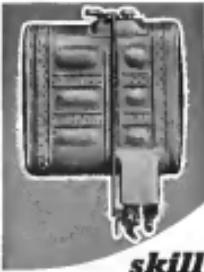
### LIFE RAFT SEXTANT:

New offboard navigation instrument, designed especially for use in life rafts. It is Plexiglas plastic, weighs about a pound and will float. Use of this celestial sphere on a life raft eliminates need for a nautical almanac, sextant and compass. Inventor is F. H. Ringer, of Des Moines, who has developed many unique navigation devices.



WAL'S NEWS STAFF:

Western Air Lines claims the first all-women staffed News Bureau. Left is Midge Winter, and to the right is Helen Wester, news bureau director among the airlines. With her is her assistant, Virginia Zimmerman. Both hold a degree from the University of Missouri.



## skill born of experience

Military craftsmanship was built up through some 40 years of years dedicated exclusively to the production of aircraft and aircraft parts; houses were built with the equipment, experience and specially trained artisans to deliver vitally needed parts quickly . . . without the delay of plant conversion and the hazard of hasty, hazard work.

### aluminum tanks

For instance, plant 2 is a completely equipped unit for fabricating and tanking of tanks of any type . . . forming, drawing, welding, brazing, heating and cooling . . . progressing smoothly, steadily and swiftly from sheet metal to finished shipment.

Aircraft makers know they can depend on Mercury quality and deliveries alike, for tanks, surfaces, parts and accessories.

At the Castle of Aviation





### CAL TURNS OUT 1,000TH FORTRESS:

Continental Air Lines has rolled the 1,000th B-17 off the production line at its Denver modification plant.

### Warner Sees Slash In Air Cargo Costs

Predicts sharp rise in traffic volume with reduction in charges.

Edward P. Warner, vice-chairman of the Civil Aviation Rate Board, has "every hope" that within three or four years after the war operating costs on mixed loads of passengers and cargo in air transportation will have come down from the 37 cents per ton-mile power figure to "something around 15," with the figure for cargo operation alone at less than 10 or 11 cents.

Even a rate of 15 cents per ton-mile on cargo, from airport to airport, would multiply by 10 or 15 and perhaps more the power volume of air express, in Warner's opinion. This figure, allowing for pickup and delivery cost, would be about a third of the present rate.

**Other Factors Involved.**—Warner told the Economic Society of Detroit that cost is not the only factor determining air cargo's future. The "gentleness" of air transportation, he asserted, will permit lighter and more economical packing. Transshipment costs and handling often can be escaped. Air cargo will permit rapid removal of stocks from factories, permitting distributors and retailers to reduce inventories, especially abroad.

He sees gains coming in efficiency of postwar cargo operations, in a period unhampered by shortage of equipment, and trained men, although "cost will need to undergo a substantial further reduction before really heavy moves into the present freight loads of truck, railway or vessel can be expected."

Future air cargo personnel who worked on it before it was taken to a dispersal point

**Unit Cost Reduced.**—From 1939 to 1943, unit cost was reduced from about 45 cents per pound-capacity ton-mile to about 35 cents, and came down another fourth in the next four years up to time of general introduction of the DC-3. With some reduction of unit cost following introduction of the B-17, Warner said a similar part of the drop between 1943 and 1947 due to savings in cargo transport weight from the 37,000 lbs. of the 33-passenger Boeing to the 22,000 lbs. of the Douglas DC-3. "Doubling of the weight of the DC-3 ought to reduce its operating cost per ton-mile by about 10 percent," he says.

He expects improvement in aerodynamic efficiency—friction drag cutting and better wing form—and believes that of technical problems of

### Two Lines Report

Eastern Air Lines' net profit for the first three quarters of 1945 was \$1,153,000, after charges and \$1,068,000 for federal income taxes. The net equals 33.67¢ a share on \$88,861 shares of capital stock. There was no provision for federal excess profits taxes. The profit figure compares with \$10,956,316 in the same months ended Sept. 30, 1943. Federal taxes for the period last year were \$1,710,000. The net, based on the same number of shares, equaled \$3.49 a share.

Western Air Lines reports net income of \$134,388, or the equivalent of 39 cents on each of 409,994 common shares, for the ratable months of 1943. Corresponding figures last year, when there was a non-recurring income item of \$243,410, were \$502,625 and \$1.22.



airlines has not decreased. In August, passenger movement increased 1943's base month by 5 percent, mail traffic was two and a half times that for the summer of 1941, and the proportionate increase in express traffic was higher.

Where load factor (unit cost) the spring of 1943 was never over 90 percent for the airlines as a whole, in a single month, it went up to 83 in the summer of 1943, and for four consecutive months of this year was above 90 percent. He described the operation of priorities, for which about 3,700 certificates are issued daily.

Warner also complimented the airlines on their "remarkable" records for safety and regularity of service. No increase has occurred, he said, in the hazards of flight, and regularity of service has been rising in the face of increasing numbers of operational aircraft. Where before 1942 the percentage of trip completion did not rise above 81%, last year it was just over 94, and indications are that 1943 will be even higher.

### CAB Cuts Mail Rate For Delta, Northwest

Delta Air Corp. and Northwest Airlines became the seventh and eighth air carriers, respectively, in the past 12 months to have their rate of mail compensation lowered to \$1.31 per pound-mile by the Civil Aeronautics Board.

The rate cut, effective Jan. 1, 1946, excludes the cost of handling and delivery, which totals about 15 cents a ton-mile.

"Let me emphasize," he added, "that I am not presenting these figures as probabilities for the month after fighting stops, but as likely to be attainable after operating conditions have been reasonably stabilized, and after some additional operating experience has been secured under peaceful conditions, and after the manufacturing industry has had time to market new aircraft of postwar design."

**Rate Rule Maintained.**—In a tribute to the war operations of the domestic airlines, he disclosed that during August and September each plane owned by the domestic lines flew an average of 1,300 miles a day. Despite lack of equipment and a drop in total mileage, the latter about 25 percent, total traffic handled by the

airlines has not decreased. In August, passenger movement increased 1943's base month by 5 percent, mail traffic was two and a half times that for the summer of 1941, and the proportionate increase in express traffic was higher.

Where load factor (unit cost)

the spring of 1943 was never over 90 percent

for the airlines as a whole, in a single month, it went up to 83 in the summer of 1943, and for four consecutive months of this year was above 90 percent. He described the operation of priorities, for which about 3,700 certificates are issued daily.

Warner also complimented the airlines on their "remarkable" records for safety and regularity of service.

No increase has occurred, he said,

in the hazards of flight, and regularity of service has been rising in the face of increasing numbers of operational aircraft. Where before 1942 the percentage of trip completion did not rise above 81%, last year it was just over 94, and indications are that 1943 will be even higher.

Board concluded from operating statements and other data submitted by Delta that the company might be expected to realize a profit of \$34,366 per annum before mail, pay and federal income taxes. The new rate is estimated to yield annual revenue in the amount of \$422,837 which, added to profits from passenger and property operations, comes to \$784,923 before federal taxes. After taxes, a 44.46 percent on all net operating profit might reasonably be expected, according to the Board.

**Operate at Profit.**—In Northwest's case, although the mail rate reduction is greater, and statistics of the company would indicate they may be expected to operate at a loss of \$600,943 with present passenger and express rates, even with the new

rate of \$1.31 the carrier's annual net income would be estimated at \$1,146,440. This would result in a net estimated profit after federal and state taxes of \$443,323.

The new rate for Delta was made effective Feb. 1, 1943, and for Northwest it is effective one month later.

### Bender Maps Hearings On Aviation Dept. Bill

Rep. George Bender, Ohio Republican, is hopeful that hearings may be held soon after the first of the year on his measure (H.J. Res. 363) to establish a new Department of Aviation in the government, with a Senate study of Aviation.

Bender, a member of the House Committee on Expenditures in Government Departments, in which the aviation question was referred, said: "I don't intend to let this one sleep."

**Post War Secretary of Aviation.**—Bending has been interested in aviation for years, the Chinese aviation is being administered on a "placeman" basis. The legislation he proposed recently would transfer to a Secretary of Aviation all the powers and functions of any other department or independent agency of the government relating to military as well as civilian, to be exercised by the secretary—who would be appointed by the President with the consent of the Senate at the same salary as other cabinet officers—to develop and expand aviation.



### COLONIAL'S IDEA FOR FUTURE:

Colonial Airlines has released this illustration of a futuristic design by F. T. Barnard for a 128-ton refrigerated fruit express plane with an aircaravan that is planned to use ships at certain points of the route. Planned for the plane, a 46-ton payload of 8 tons of air and liquid Lethbridge loaded cargo, 3,000 k.p. diplex gasoline or

Diesel engines with counter rotating propellers, fuel capacity to haul perishables one-step from Miami to Montreal in nine hours at a consumption of about 750 gallons an hour, average cruising speed 140 mph, and average altitude 10,000 ft., wing span 218 ft. length 77 ft., cabin space for mail and freight, 1,000 cu. ft.



## An Expert Looks Ahead

**W**HEN THE MENEN plunged into war, and the airlines lost half their fleet to the Army, and traffic soared to phenomenal heights, a rumor sprang up that the remaining planes were being overworked.

It gained such currency that the Air Transport Association began to devote the space in its first regular series of advertisements in newspapers and magazines to the industry's unflagging maintenance and safety standards. The individual lines enlisted through their own publicity offices and advertisements. The rumor died.

Last week Dr. Edward P. Warner, the CAA's statute vice-chairman, showed how wrong that rumor was. He disclosed that the industry's accident rate has actually declined since the war started.

From 1933 to 1937 the accident rate is placed by Dr. Warner at about 1.8 fatalities per 100,000,000 passenger miles. Between 1939 and 1942, this was reduced to an average of 2.8. In the 12 months to Dec. 1 the rate had dropped to 2.2. Only one calendar year in the history of American air transport (1933) had a better record than that for the most recent year cited.

"The special strains of war, increased intensity of utilization of equipment, and the loss of many experienced personnel, might have been expected to increase the hazards of flight," Dr. Warner says. "Fortunately, and greatly to the credit of the operating personnel, we saw increase has occurred."

This safety accomplishment plus the added strength of the lines in regularity of service (more than 94 percent of all domestic trips scheduled were completed), moves him to say:

"If so much can be accomplished in time of war, the records of safety and regularity that will be established when peace brings its new opportunities ought to be sensational!"

## Big vs. Small Business

**L**ESS THAN A YEAR AGO Rathway Age, undisputed voice of railroad management in this country, was still taking potshots at those men in aviation who were picturing quite a future for scheduled air transportation. Today, however, it is taking indulgent exception to those who believe the railroads should not be allowed to participate in this promising new field.

Although there were a number of alert railroad executives long ago who realized the potentialities of air and were eager to spread wings, the most recent change in Rathway Age's attitude probably is an accurate reflection of the delay in the service of the majority of the big roads to a program of

Some roads, it is true, are content with what they have and are banking their future on some rather revolutionary improvements in physical plant, roll-

ing stock and other improvements in service. These roads want no part of aviation.

But others do and the fight for our rights is on in earnest. Those who do not think as have their hands in the sand. Not many in aviation think railroad domination will insure maximum development for the airlines, despite the billions of dollars in new assets available. It's a David-Goliath tussle, even with the best brains and cooperation the abilities can muster, and as far as their preparation for and participation in the fray have been rather feeble, with some tactical errors. The outlook—not necessarily for tomorrow, but for perhaps a year or two or five from now—is not a happy one for the present generation of airline executives. Because once the railroads succeed in getting into the picture, the whole character of the industry will start undergoing a revolution.

Those who believe the railroads' entry into scheduled air transportation will prevent its maximum growth and maximum service to the public should have leadership and a surefire, intelligent plan. The lack of progress on the Lea Bill to date wouldn't indicate they have either.

## Export Aircraft

**T**HIS summer of A. Ogden Pierrot, elsewhere in this issue of Aviation News, that the aircraft industry study carefully its probable market in Latin America after the war is linked with another recommendation made recently to the Aero-nautical Chamber of Commerce economic development committee.

Although few U. S. controls should be clamped on exports, it is worth noting that the British government virtually guarantees the quality of British planes which are exported. The United States has never certified export aircraft in this manner.

Great Britain requires that certificates of airworthiness be obtained by the exporter on each plane exported. These certificates assure the purchaser that the particular craft has the official approval of the government. Thus, in the event of development of a defect in design or manufacture, the British government, or one of its allies, purchases affected. While it would be better if granted that U. S. manufacturers themselves would report such defects at once, the psychological effect on the purchasers would still be more favorable if they knew that the government of the United States was behind each plane.

"The prestige that results for British aircraft, as regards reliability, as a result of this official assistance given by the British government in the export market is enormous," Mr. Pierrot told the committee, "particularly in the case of purchasers made by small governments."

Although some firms might see a possibility of more red tape by the government by virtue of the implied federal responsibility, it is a matter for serious thought by the industry and the Commerce department or other pertinent agencies.

ROBERT H. WOOD



## WAR PLANES, TOO, NEED SMOOTH COMPLEXIONS

A satiny-smooth skin means much to a woman's beauty. But to a war plane, a sleek, smooth skin is more than a matter of appearance; it's a matter of performance.

For when fighter planes fly at speeds in excess of 400 miles per hour, even the slightest bumps and irregularities on flying surfaces can affect speeds and operating efficiencies.

That's why at McDonnell, we not only take extra care to see that men are driven exactly and evenly, but also employ special methods to assure smoother surfaces on metal "skins."

For we believe that good craftsmanship is as necessary as good design. Both are vital in

the production of aircraft worthy of the men who fly them.

The development of special techniques for controlling skin surfaces, represent only a few of many refinements employed at McDonnell to assure the production of highest quality aircraft and parts.

To that end, enlightened and experienced management, loyal, skilled and informed personnel, are working together three shifts a day—striving to perfect each operation better and faster—never forgetting their responsibility in maintaining McDonnell's reputation of meeting production requirements . . . on schedule.

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"UPSTAIRS" means home  
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When a Thunderbolt pilot "takes her upstairs," he takes her clear to the roof. "Upstairs" to this plane is that area bounded roughly by the 35,000 and 40,000-foot altitude marks.

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*The job is being done. See almost any newspaper for convincing evidence.*

The stratosphere will be equally important as a sky route for tomorrow's high speed, long distance air transport. Men and women who designed and built the Thunderbolt will know how to put peacetime planes into the stratosphere. Republic Aviation Corporation, Farmingdale, L. I., New York and Evansville, Indiana.

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